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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/971,097	10/03/2001	John Wallner	06979-0013	2124

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EXAMINER

HOM, SHICK C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/971,097	<b>Applicant(s)</b> WALLNER ET AL.	
	<b>Examiner</b> Shick C. Hom	<b>Art Unit</b> 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 8/8/05 & 8/12/05.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 1-74 have been considered but are moot in view of the new ground(s) of rejection.

***Claim Rejections - 35 USC § 112***

2. Claims 20-23, and 26-29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 26-29 appears to be duplicate of claims 20-23, respectively, therefore it is not clear what limitation is being claimed in claims 26-29 that is not already claimed in claims 20-23, respectively.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-4, 7-11, 15, 20-23, 26-28, 31-32, 36, 40, 42-45, 53-54, 58, 62, and 64-67 rejected under 35 U.S.C. 103(a) as being unpatentable over Seidel (4,383,316) in view of Honig et al. (6,487,171).

Regarding claims 1, 2, 31, 40, 53, and 62:

Seidel discloses an apparatus comprising: a plurality of source ports operable to receive frames at a higher data rate, at least one of the source ports comprising a source port input a plurality of source port outputs providing multiple parallel

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channels wherein at least one of the source ports is operable to sequentially output complete data through the multiple parallel channels at a lower data rate (see Fig. 3 and col. 3 lines 6-17 which show and recite the source terminal 11 receiving the serial high speed data signal 10 and distributing the serial high speed signal to the plurality of ports comprising multiple parallel channels 12 operating at a lower data rate) a plurality of switching elements forming a sequential switching fabric and operating at the lower data rate, the switching elements each comprising a plurality of switching element inputs individually coupled to the source port outputs a plurality of switching element outputs a plurality of destination ports operable to sequentially receive the complete data packets at the lower data rate and output the complete data packets at the higher data rate, at least one of the destination ports comprising a plurality of destination port inputs individually coupled to the switching element outputs a destination port output (see Fig. 3 and col. 3 lines 18-35 which show and recite the central office for routing and switching at the lower data rate including the plurality of transmission and switching paths 19-22 outputting data to the destination terminal for reproducing the original high-speed data signal on lead 30 clearly reads on the switching

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elements forming the switching fabric operating at the lower data rate).

Regarding claim 4:

Seidel discloses wherein a minimum of two switching elements per source port is supplied (see Fig. 3 the transmission and switching paths 19-22 which corresponds to the switching elements and the source port 12).

Regarding claims 9, 10, 11, 15, 22, 23, 28, 29, 32, 36, 44, 45, 54, 58, 66, 67:

Seidel discloses wherein each data event is defined as completing the transfer of one data and beginning the transfer of another data immediately after; wherein the complete data is routed from at least one of the source ports to a given one of the destination ports where a payload of each data is much larger in comparison to an attached header that identifies the data and its ultimate destination such that overhead is minimized (see Fig. 1 and col. 2 lines 18-44, which show and recite the data serially transmitted whereby the data message portion is larger than the header portion and col. 3 lines 6-17 which recite the data being distributed sample-by-sample to the lower-speed channels clearly reads on the complete data being transmitted).

Regarding claims 3, 7, 8, 20, 21, 26, 27, 42, 43, 64, 65:

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Seidel discloses wherein the number of switching elements is proportional to the ratio of the high to low data rates; and wherein the number of switching elements is upwardly scalable to accommodate greater data input (see col. 2 lines 50-65 which describe how to calculate the number of lower speed channels for the higher speed channel to switch the data from the source to the destination terminal).

Seidel discloses all the subject matter of the claimed invention with the exception of whereby the complete data being complete data packets and wherein the complete data packets having uniform or variable size are routed through a single serial link while sustaining throughput at the higher data rate, the single serial link formed by a given one of the source ports, a given one of the switching elements and a given one of the destination ports.

Honig et al. from the same or similar fields of endeavor teach that it is known to provide complete data packets having uniform or variable size being routed through a single serial link while sustaining throughput at the higher data rate, the single serial link formed by a given one of the source ports, a given one of the switching elements and a given one of the destination ports (see the abstract, col. 7 line 57 to col. 8 line 12 and col. 8 line 30-33 which recite the serial interface

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for transmitting variable length packet data without large idle waiting times of the switch matrix and providing maximum utilization of the bandwidth of the switching matrix without compromising or degrading the bandwidth of the overall traffic clearly anticipate the data packets being routed through the serial link while sustaining throughput at the higher data rate). Thus, it would have been obvious to the person having ordinary skill in the art at the time the invention was made to provide complete data packets having uniform or variable size being routed through a single serial link while sustaining throughput at the higher data rate, the single serial link formed by a given one of the source ports, a given one of the switching elements and a given one of the destination ports as taught by Honig et al. in the communications apparatus and method of Seidel. The complete data packets having uniform or variable size being routed through a single serial link while sustaining throughput at the higher data rate, the single serial link formed by a given one of the source ports, a given one of the switching elements and a given one of the destination ports can be implemented by substituting the data and central office and transmission and switching paths of Seidel for the data packet and crossbar switch matrix of Honig et al. The motivation for using the data packet and crossbar switch matrix



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as taught by Honig et al. in the communication apparatus and method of Seidel being that it provides more efficiency for the system since the system can switch data without compromising or degrading the bandwidth of the overall traffic.

***Allowable Subject Matter***

6. Claims 5-6, 12-14, 16-18, 19, 24, 25, 30, 33-35, 37-39, 41, 46-52, 55-57, 59-61, 63, 68-74 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yehuda et al. disclose rearrangement of data streams.

Gitlin et al. disclose gigabit per-second optical packet switching with electronic control.

Alexander et al. disclose flexible FIFO system for interfacing between datapaths of variable length.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is

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reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shick C. Hom whose telephone number is 571-272-3173. The examiner can normally be reached on Monday to Friday with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the

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organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SH



DANG TON  
PRIMARY EXAMINER